

1

2 CLAIMS

3

4 1. A method for determining relevant additional resources with respect to a  
5 given set of starting resources, characterized in that it comprises the following  
6 steps:

7 a) identifying a set of citing resources that consist of all the resources having a  
8 link to at least one of the starting resources,

9 b) forming a set of candidate resources that consists of the set of resources  
10 cited by the citing resources,

11 c) for each candidate resource, calculating a candidate resource relevance  
12 score between said candidate resource and the set of starting resources on the basis  
13 of the existence of links situated in the citing resources and directed toward the  
14 candidate resource and toward the starting resources, and on the basis also of citing  
15 resource relevance scores assigned to each of the citing resources,

16 d) for each citing resource, recalculating a citing resource relevance score on  
17 the basis of the existence, in the citing resource in question, of links to the  
18 candidate resources and on the basis also of the candidate resource relevance  
19 scores allocated to the candidate resources in step c),

20 e) repeating as appropriate step c) and step d) as appropriate one or more  
21 times followed by step c),

22 f) determining said relevant additional resources as being the candidate  
23 resources which exhibit the best candidate resource relevance scores.

24

25 2. The method as claimed in claim 1, characterized in that the relevance score  
26 calculation performed in step c) comprises the calculation of a plurality of sums of  
27 citing resource relevance scores, each sum comprising only the relevance scores of  
28 the citing resources comprising a link to a given resource consisting of the  
29 candidate resource or a starting resource.

30

31 3. The method as claimed in claim 2, characterized in that it also comprises  
32 the calculation of at least one sum of citing resource relevance scores, each sum  
33 comprising only the relevance scores of the citing resources comprising a link to  
34 one among a set of at least two given resources, this set comprising the candidate  
35 resource and at least one starting resource.

36

37 4. A method for determining relevant additional resources with respect to a  
38 given set of starting resources, characterized in that it comprises the following

1 steps:

- 2 a) identifying a set of cited resources that consist of all the resources having a  
3 link to at least one of the starting resources,
- 4 b) forming a set of candidate resources that consists of the set of resources  
5 citing the cited resources,
- 6 c) for each candidate resource, calculating a candidate resource relevance  
7 score between said candidate resource and the set of starting resources on the basis  
8 of the existence of links situated in the candidate resource and in the starting  
9 resources and directed toward the cited resources, and on the basis also of cited  
10 resource relevance scores assigned to each of the cited resources,
- 11 d) for each cited resource, recalculating a cited resource relevance score on  
12 the basis of the existence, in the cited resource in question, of links to the candidate  
13 resources and on the basis also of the candidate resource relevance scores allocated  
14 to the candidate resources in step c),
- 15 e) repeating as appropriate step c) and step d) as appropriate one or more  
16 times followed by step c),
- 17 f) determining said relevant additional resources as being the candidate  
18 resources which exhibit the best candidate resource relevance scores.

19

20 5. A system for browsing among information resources, each resource  
21 comprising at least one link activatable in a first mode by an input device so as to  
22 bring about access to another information resource designated by a resource  
23 identifier associated with this link, characterized in that at least certain resources  
24 comprise at least one link activatable in a second mode with the aid of an input  
25 device so as to send to an engine for searching for new information resources a  
26 search query containing the resource identifier associated with the link in question.

27

28 6. The system as claimed in claim 5, characterized in that the input device is  
29 able to activate the link simultaneously in the first and second modes.

30

31 7. The system as claimed in claim 5, characterized in that the activation of the  
32 link in the second mode is able to bring about the displaying of a pre-existing  
33 query, to which the resource identifier associated with the link in question is able  
34 to be added.

35

36 8. The system as claimed in claims 6 and 7 taken in combination,  
37 characterized in that the activation of the link in the second mode is able to  
38 display, in addition to the pre-existing query, the information resource designated

1 by said resource identifier.

2

3 9. A system for searching for new information resources on the basis of  
4 existing information resources, characterized in that it comprises a search engine  
5 based on the analysis of links between the various resources and accepting as input  
6 a query comprising a series of resource identifiers, a means of selecting identifiers  
7 which is able to store a set of identifiers (URI) of resources selected one after the  
8 other by a user, and a user activatable query generating means for devising a query  
9 containing the set of identifiers previously selected destined for the search engine.

10

11 10. The system as claimed in claim 9, characterized in that the means of  
12 selection is able to store the identifiers selected in a remanent manner, in such a  
13 way that the means of selection can be implemented in a manner staggered over  
14 time with a view to the generation of one and the same query.

15

16 11. A method of searching for new information resources on the basis of  
17 existing information resources, characterized in that it comprises the  
18 implementation of a search engine based on the analysis of links between various  
19 resources and accepting as input a query comprising a series of resource identifiers  
20 and in that it comprises the following steps:

- 21 - selection of identifiers (URI) of resources one after the other by a user;  
22 - generation of a query containing the set of identifiers previously selected  
23 destined for the search engine.

24

25 12. A method of searching for new information resources on the basis of  
26 existing information resources, characterized in that it comprises the  
27 implementation of a search engine based on the analysis of links between various  
28 resources and accepting as input a query comprising a series of resource identifiers  
29 and in that it comprises the following steps:

- 30 - generation of a query containing a set of identifiers of resources previously  
31 stored in one and the same group of resource identifiers individual to a user,  
32 destined for the search engine,  
33 - generation of a signaling for the attention of the user when at least one new  
34 resource identifier belonging to the group in question has been found by the  
35 engine.

36

37 13. The method as claimed in claim 12, characterized in that each group of  
38 resource identifiers is represented by a graphical object on a display device of the

1 user, and in that said signaling is carried out at least by change of appearance of  
2 this graphical object.

3

4 14. A method of managing resources in a computer system provided with a  
5 display screen and with an input device for cursor movement and actuation such as  
6 a mouse, each resource possessing a representation displayed on the screen in such  
7 a way as to be able to be moved with the aid of the input device, method  
8 characterized in that it comprises the following steps:

- 9 - movement of the representation of a first resource so as to bring it above  
10 the representation of a second resource,  
11 - followed by storage, in an associative memory for managing resources, of  
12 information of association between the first and second resources.

13

14 15. The method as claimed in claim 14, characterized in that the movement  
15 step is performed by a drag and drop technique.

16

17 16. The method as claimed in claim 14 or 15, characterized in that it  
18 furthermore comprises, subsequent to the identification of a given resource in a  
19 resource consultation process, the following steps:

- 20 - reading of the associative memory for managing resources to determine  
21 whether other resources are associated with said given resource, and  
22 - if so, signaling on the display screen of the existence of the associated  
23 resource or resources.

24

25 17. The method as claimed in one of claims 14 to 16, characterized in that the  
26 resources comprise files.

27

28 18. The method as claimed in one of claims 14 to 17, characterized in that the  
29 resources comprise resources accessible via a network such as the Internet.

30

31 19. The method as claimed in claim 16, characterized in that the identification  
32 of a given resource is obtained via a process for identifying similar or relevant  
33 resources with respect to at least one starting resource.

34

35 20. The method as claimed in claim 16 or 19, characterized in that, in the case  
36 where the reading of the associative management memory determines the  
37 existence of several associated resources, the signaling step comprises the ordered  
38 signaling of at least part of said several associated resources.

1

2 21. The method as claimed in claim 20, characterized in that the ordered  
3 signaling is based on the determination of relevance scores of said associated  
4 resources.

5

6 22. The method as claimed in one of claims 14 to 21, characterized in that the  
7 associative memory for managing resources is contained in a server accessible  
8 from a plurality of individual stations in which the movement step can be  
9 implemented.

10

11 23. The method as claimed in claim 22, characterized in that the associations  
12 between resources are stored user by user.

13

14 24. The method as claimed in claim 22, characterized in that the associations  
15 between resources are stored in a mutualized manner between several users.

16

17 25. A method for identifying on the basis of a text resource, part of said  
18 resource able to constitute a pertinent query for a search engine, characterized in  
19 that it comprises the following steps:

- 20 - removing the nonpertinent words from the text;
- 21 - establishing and completing a memory of links between parts of said text,  
22 where a part is linked to another when it contains at least one pertinent word in  
23 common;
- 24 - implementing a method of determining resource scores by analysis of a  
25 graph of resource nodes connected by links, where each resource used in this  
26 method consists of a part of the text, on the parts of the text that are thus  
27 interconnected;
- 28 - using at least one of the text parts consisting of the candidate resources  
29 determined by said method as query text or as basis for a query text.

30

31 26. The method as claimed in claim 25, characterized in that the step of  
32 implementing the method according to one of claims 1 to 4 is performed only with  
33 text parts selected as prevalent, where the citing text parts are the text parts which  
34 comprise at least one word in common with the prevalent text part or parts, where  
35 a link is created from each citing text part to the prevalent text part or parts, where  
36 the text parts containing at least one word also contained in the citing text parts are  
37 identified, so as to form a group of co-cited text parts, and where a link is

1 temporarily created from each citing text part to each co-cited text part with which  
2 said citing text part possesses at least one word in common.

3  
4 27. The method as claimed in one of claims 25 and 26, characterized in that the  
5 text parts are phrases.

6  
7 28. A method of managing information resources such as web pages in a  
8 computer system comprising a user station furnished with a display screen, each  
9 resource possessing an identifier (URI) allowing its access from the user station,  
10 method characterized in that it comprises the following steps:

11 a) declaration by the user of an association between two resources, by  
12 associating with a second resource the identifier of a first resource;

13 b) identification of other relevant resources with respect to the second  
14 resource; and

15 c) during access to one of the other resources (*current page*), signaling of the  
16 existence of the first resource.

17  
18 29. The method as claimed in claim 28, characterized in that step b) comprises  
19 the selection of other resources that are most relevant for the implementation of  
20 step c).

21  
22 30. The method as claimed in one of claims 28 and 29, characterized in that  
23 step a) is implemented for a plurality of second resources belonging to a group,  
24 and in that step b) comprises the identification of other relevant resources with  
25 respect to the set of second resources of the group.

26  
27 31. The method as claimed in one of claims 28 to 30, characterized in that step  
28 b) is triggered by the carrying out of step (a).

29  
30 32. The method as claimed in one of claims 28 to 30, characterized in that step  
31 (b) is implemented subsequently to the access envisaged in step (c) to determine  
32 whether the other resource which it has accessed is another relevant resource with  
33 respect to the second resource.

34  
35 33. The method as claimed in one of claims 28 to 30, characterized in that step  
36 (b) is implemented by supplying an identifier of the second resource to a server for  
37 determining relevant resources.

38

1 34. The method as claimed in one of claims 28 to 33, characterized in that step  
2 (b) is implemented by identifying other relevant resources with respect to at least  
3 one intermediate resource (*spot*) with respect to which the second resource is  
4 predetermined as being relevant.

5  
6 35. The method as claimed in one of claims 28 to 34, characterized in that it  
7 furthermore comprises the displaying, in the vicinity of an area for displaying  
8 resources, of representations of links to at least certain among the first resources,  
9 the intermediate resources, and relevant resources with respect to the intermediate  
10 resources.

11  
12 36. The method as claimed in one of claims 28 to 35, characterized in that step  
13 (a) is implemented by acting with the aid of an input device on graphical objects  
14 representative of the first and second resources.

15  
16 37. A method for identifying information resources accessible via recent links  
17 (such as web pages), relevant with respect to at least one given resource,  
18 characterized in that it comprises the following steps:

- 19 - applying a query comprising an identifier of said given resource to a  
20 system for determining relevance between resources,
- 21 - selecting a first set of resources that are the most relevant (e.g. *best hub*  
22 *scores*) with respect to said given resource,
- 23 - searching, through each of the most relevant resources, for the regions  
24 possessing links to other resources of averagely high relevance, so-called relevant  
25 regions,
- 26 - monitoring the appearance, in said relevant regions, of new links which  
27 point to resources which were not yet known to the system, so-called new  
28 resources,
- 29 - selecting a second set of resources having a high relevance (e.g. *best*  
30 *hypertext authority scores*) with respect to said given resource,
- 31 - selecting the new resources which have a highest similarity of content with  
32 respect to the resources of said second set of resources and according the new  
33 resources selected a relevance level (*similarity authority score*) dependent on time  
34 as a function of said similarity of content.

35  
36 37. A method for allowing access by a user to relevant information entities  
37 from a starting information entity, each information entity being accessible via an  
38 identifier (URI), characterized in that it comprises the following steps:

1 a) providing at least one similar information entity, exhibiting a content  
2 similar to that of the starting entity, and determining the identifier of the or of each  
3 similar information entity, and

4 b) determining on the basis of the or each similar information entity identifier  
5 a set of one or more identifiers of information entities relevant with respect to the  
6 or each similar information entity.

7  
8 39. The method as claimed in claim 38, characterized in that it furthermore  
9 comprises the following step:

10 c) allowing the user to access at least certain relevant information from their  
11 respective identifiers.

12  
13 40. The method as claimed in claim 38 or 39, characterized in that it  
14 furthermore comprises the following step:

15 d) on the basis of the relevant information entity identifiers and of a given set  
16 of extra information entities, selecting the extra entities that are most similar to the  
17 relevant information entities.

18  
19 41. The method as claimed in one of claims 38 to 40, characterized in that it  
20 comprises an extra step of sorting the relevant information entities by degree of  
21 relevance.

22  
23 42. The method as claimed in claim 41, characterized in that the sorting step is  
24 preceded by a step of calculating a relevance score with respect to the or each  
25 similar information entity for each of the relevant information entities.

26  
27 43. The method as claimed in one of claims 38 to 42, characterized in that each  
28 information entity consists of a page fragment written in a standardized mark-up  
29 language, or of such a page as a whole.

30  
31 44. The method as claimed in claim 43, characterized in that each identifier  
32 consists of a uniform resource identifier (URI) of the fragment or of the page.

33  
34 45. The method as claimed in one of claims 38 to 44, characterized in that step  
35 a) is carried out by selection by the user of one or more information entities similar  
36 to the starting information entity.

37



1 46. The method as claimed in one of claims 38 to 44, characterized in that step  
2 a) is carried out by implementing a process for automatically determining similar  
3 information entities.

4  
5 47. The method as claimed in one of claims 38 to 44, characterized in that step  
6 a) is carried out by implementing a process for automatically determining similar  
7 information entities, followed by a selection by the user of one or more similar  
8 information entities from among the similar information entities determined by  
9 said process.

10  
11 48. The method as claimed in one of claims 38 to 47, characterized in that step  
12 b) is carried out by implementing a process for automatically determining relevant  
13 information entities.

14  
15 49. The method as claimed in claim 48, characterized in that the process for  
16 automatically determining relevant information entities comprises the analysis of a  
17 graph structure of identifiers that consists of the identifiers of information entities  
18 and of the identifiers designated by user activatable links contained in said  
19 information entities.

20  
21 50. A method for determining relevance scores of text units such as phrases in  
22 a textual document, characterized in that it comprises the following steps:

- 23 - decomposition of the document into a plurality of text units,
- 24 - selection of at least one relevant text unit and of candidate text  
25 units,
- 26 - determination of the set of pertinent words contained in the relevant  
27 text unit (or units) and in each of the candidate text units,
- 28 - for each pertinent word contained in the relevant text unit (or units),  
29 identification of the candidate text units citing this pertinent word, to form a group  
30 of citing text units,
- 31 - identification of the candidate text units containing at least one  
32 pertinent word also cited in the citing text units, to form a group of co-cited text  
33 units,
- 34 - assigning to the co-cited text units a relevance score as a function of  
35 said citations.

36  
37 51. A method for determining relevance scores of text units such as phrases in  
38 a textual document, characterized in that it comprises the following steps:

- 1           -       decomposition of the document into a plurality of text units,
- 2           -       selection of at least one relevant text unit and of candidate text
- 3 units,
- 4           -       determination of the set of pertinent words contained in the relevant
- 5 text unit (or units) and in each of the candidate text units,
- 6           -       for each pertinent word contained in the relevant text unit (or units),
- 7 identification of the candidate text units comprising this pertinent word, to form a
- 8 group of cited text units,
- 9           -       identification of the candidate text units containing at least one
- 10 pertinent word also cited in the cited text units, to form a group of co-citing text
- 11 units,
- 12           -       assigning to the co-citing text units a relevance score as a function
- 13 of said citations.
- 14
- 15 52.    A method for determining scores allocated to words or groups of words
- 16 contained in text units such as phrases in a textual document, characterized in that
- 17 it comprises a step which consists in adding up the relevance scores, determined
- 18 according to one of claims 50 and 51, of the text units in which said words are
- 19 located.